

**Remarks**

Upon entry of the present Reply, claims 1- 43 are pending in the application. Claims 1, 28 and 36 are amended and claim 24 is cancelled herein.

Claims 1, 28 and 36 are amended to specify that from 0.5 to about 2 microns of metal are removed from the first major surface during the micro-roughening step, which is supported in original claim 24.

Applicants submit herewith the Declaration of Craig V. Bishop. Discussion of this Declaration is set forth below.

The specification has been amended to include the features of originally filed claim 24 which, when the specification was reviewed in amending claims 1, 28 and 36, was found to have been inadvertently omitted from the specification although it was in the claims as originally filed. Accordingly, entry of this amendment, which thus contains no new matter, is respectfully requested.

Applicants respectfully submit that the presently presented claims fully patentably distinguish over the prior art of record, for at least the reasons set forth in the following, together with the facts shown in the Declaration. Reconsideration of the application, withdrawal of the rejections, and allowance of the claims is respectfully solicited.

**Summary of Substance of Personal Interview with Examiner**

On 08 August 2006, a personal interview was held with Examiner Culbert, Applicants' representative (and the present Declarant) Craig V. Bishop, and Applicants' undersigned attorney, Thomas W. Adams (collectively, "the parties"). Applicant, Mr. Bishop and the undersigned thank the Examiner for meeting with us and for the helpful discussion of the issues in the interview.

During the interview, the parties discussed the "species objection" to the amended claims 19, 20 and 22, in which the Examiner explained his position that these claims cover non-elected species. Applicants pointed out that the pending claims are generic, and that in any case, the species will come back into the application upon allowance of the generic claims.

During the interview, the parties discussed the art rejections, particularly discussing the Andresakis et al. reference and the Bayes et al. reference. No agreement was reached. The Examiner indicated his intention to maintain the rejection unless Applicants could set forth facts or argument showing why the asserted combination either would not

be made by the person of ordinary skill, or why the claimed invention would not be obtained by the contended combination of references.

The foregoing constitutes Applicants' summary of the substance of the personal interview of 08 August 2006, in accordance with 37 CFR 1.133 and MPEP 713.04.

### **Objection to and Withdrawal of Claims 19, 20 and 22**

In the Office action mailed 16 May 2006, the Examiner stated that claims 19, 20 and 22 were drawn to non-elected species and withdrew these claims from consideration. In the present Reply, Applicants have shown the status of claims 19 and 20 as withdrawn, but respectfully submit that claim 22 does not constitute a non-elected species, since it adds a surfactant to the composition of claim 1.

Furthermore, Applicants respectfully submit that since claim 1 is now in condition for allowance that claims 19 and 20 and, if the Examiner still maintains that claim 22 is a non-elected species, claim 22, all should be reinstated into the application, since claim 1 is generic.

### **Declaration of Craig V. Bishop**

Submitted herewith is the Declaration under 37 CFR 1.132 of Craig V. Bishop. As shown in the Declaration, Mr. Bishop is a person of skill in the art of metal surface modification. As stated in the Declaration, Mr. Bishop has reviewed the Andresakis et al., Bayes et al. and Lee et al. references. As stated by Mr. Bishop in the Declaration, those of skill in the art would recognize that neither Andresakis et al. nor Bayes et al. removes no more than inadvertent amounts of metal from the metal surface, but instead merely form an oxide on the metal surface as a means of enhancing adhesion of dielectric materials to the metal surface. As stated in the Declaration, Bayes et al. actually teaches away from removing metal during such adhesion-promotion processes. As stated in the Declaration, all of the cited references, Andresakis et al., Bayes et al. and Lee et al., fail to even recognize the problem of a galvanic edge effect resulting from micro-roughening.

### **Rejection of Claims over Andresakis et al. Alone and In Combination**

Claims 1-5, 8-18 and 24-43 stand rejected as obvious over Andresakis et al., U.S. Patent No. 6,500,339, in view of U.S. 2003/0029730 to Lee et al. and U.S. Patent No. 6,261,466 to Bayes et al. Claims 5-7 stand rejected as obvious over Andersakis et al. in

view of Lee et al. and Bayes et al., and further in view of U.S. Patent No. 6,562,149 to Greiser et al., U.S. Patent No. 6,036,758 to Fairweather, and U.S. Patent No. 4,637,899 to Kennedy, Jr. Applicants respectfully traverse the rejections of all of these claims as based in any combination on Andresakis et al., Bayes et al. and Lee et al.

Applicants respectfully submit that the cited references fail to disclose or suggest a step of micro-roughening a mixed-metal layer as claimed, and therefore cannot have rendered obvious any of the presently pending claims. As shown by the Declaration of Craig V. Bishop, the processes disclosed by Andresakis et al. and Bayes et al. do not remove any more than an inadvertent amount of metal, but instead merely form an oxide coating on the metal surface.

Lee et al. fails to recognize the problem recognized and solved by the present invention - the problem of galvanic edge effects which occur when the mixed-metal layer is roughened by an oxidative process in which an edge effect would occur due to the two different metals in the mixed-metal layer or circuitry. The only recognition of this problem is in Applicants' specification, not in Lee et al., not in Bayes et al. and not in Andresakis et al. The only solution to this newly-recognized problem is provided in Applicants' specification - the claimed invention is the solution to this problem.

For these reasons, Applicants respectfully submit that the presently claimed invention fully distinguishes over the prior art of record and respectfully requests reconsideration and withdrawal of the rejections of the claims, based on the foregoing amendments and arguments.

### **Conclusion**

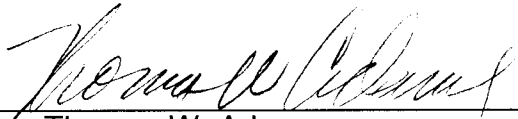
It is respectfully submitted that all of the claims presently in the application are allowable, and that any claims withdrawn from consideration due to previous or the present election of species should be reinstated into the case and allowed.

In the event issues arise as a result of the filing of this paper, or remain in the prosecution of this application, Applicants request that the Examiner telephone the undersigned attorney to expedite allowance of the application. Should a Petition for Extension of Time be necessary for the present Reply to the outstanding Office action to be timely filed (or if such a petition has been made and an additional extension is necessary) petition therefor is hereby made and, if any additional fees are required for the

filing of this paper, the Commissioner is authorized to charge those fees to Deposit Account #18-0988, Docket No. ATODP0100US.

Respectfully submitted,

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